PRA 9: Former 6,000-Gallon No. 2 Fuel Oil Underground Storage Tank Completion Report

Bridgeport Harbor Station

Bridgeport, Connecticut

1. INTRODUCTION

This Completion Report documents the activities performed to achieve compliance with State of Connecticut Department of Environmental Protection (CTDEP) Remediation Standard Regulations (RSR) for Potential Release Area (PRA) 9 at the Bridgeport Harbor Station (BHS) located at 1 Atlantic Street in Bridgeport, Connecticut (Site). The location of the Site is shown on Figure 1. Weston Solutions, Inc. (WESTON®) prepared this summary under contract to PSEG Power Connecticut LLC (PSEG) using data and information generated by WESTON and others.

PSEG acquired the membership interest in Wisvest-Connecticut, LLC (Wisvest), the owner of BHS, on 6 December 2002 and changed the name to PSEG. Wisvest had previously acquired the Site in April 1999 from The United Illuminating Company (UI). Because the Site qualified as an "Establishment," under Connecticut's Property Transfer Act (Connecticut General Statutes Section §22a-134 et seq., as amended), transfer of ownership required submittal of a Form III to the CTDEP. The most recent Form III, submitted to the CTDEP in December 2002, identified PSEG as the "certifying party." On 9 January 2003, the CTDEP notified PSEG that it had determined that oversight of remedial activities at the Site in accordance with the RSRs would continue to be delegated to a Licensed Environmental Professional.

Environmental investigations were initiated at BHS in 1998 by UI and continued by Wisvest and then PSEG following the various transfers. These investigations focused on 17 PRAs identified as part of the original Phase 1 Environmental Assessment, prepared in November 2000.

In summary, PRAs 1, 2, 3, 5, 6, 8, 12, 13, 14, 15, and 88 were identified as potentially requiring some form of remediation. Based on the investigation results, it was concluded that no remediation was required at PRAs 4, 9, 10, and 11. Former PRA 7 is no longer part of the Site because it was located on land that was subsequently conveyed to the Bridgeport Port Authority. The Bridgeport Port Authority filed a separate Form III in connection with the transfer of PRA 7 and is now responsible for the investigation and

closure of that area in accordance with the RSRs. PRA 16 is located completely within the boundaries of PRAs 13 and 15 and was assessed as part of the PRA 13 and 15 investigations. Figure 2 shows the locations of all 17 PRAs.

Further investigation and/or remediation were performed at PRAs 1, 2, 12, and 13 and they were determined to be in compliance with the RSRs. WESTON developed and submitted individual Completion Reports for each of those four PRAs to PSEG in August 2005.

This report documents the rationale used to determine compliance with the RSRs for PRA 9, where no additional investigation and/or remediation were required. The following sections include a brief description and history of the PRA, summary of relevant analytical data and comparison with the RSRs, and discussion of the rationale for determining compliance.

The individual Completion Reports for the various PRAs will be incorporated into a final Remediation Report that will be submitted to CTDEP.

2. SITE DESCRIPTION/BACKGROUND

PRA 9 is an area just north of the generating plant that is the location of current and historic underground storage tanks (USTs) containing No. 2 fuel oil (see Figure 2). The Site is the current location of an existing 6000-gallon fiberglass reinforced plastic, double-walled UST with interstitial monitoring as well as spill and overflow control. The UST was installed in 1989 and is used to store No. 2 fuel oil used for startup and shutdown of the power generating units. A previous 6000-gallon steel UST, that was also used to store No. 2 fuel oil, was located in the same spot as the existing tank but was removed in 1989. The former steel UST was reportedly over 30 years old (installed in 1957) at the time of removal. According to the tank closure report, contaminated soil was removed from the tank excavation during closure; however, the exact quantity of contaminated soil removed is not known.

The existing fiberglass tank passed a tightness test in July 1990 shortly after installation. The tank is subject to tightness tests on a 3-year cycle with the latest one conducted on 24 April 2003, which it passed. The next tightness test is scheduled to be performed in 2006. Figure 3 shows the extent of PRA 9.

3. POTENTIAL SOURCES

Potential releases associated with the existing and former USTs at PRA 9 include leaks of the tanks themselves or associated piping and spills or other accidental releases such as overfills. Such releases could contain volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), total petroleum hydrocarbons (TPH), toxic analyte list (TAL) metals associated with fuel oil.

4. SUMMARY OF PRA 9 INVESTIGATIONS

A Phase II/III Field Investigation was performed in 1998 to assess environmental conditions at PRA 9 associated with the former UST. A total of 3 soil borings drilled in the area of the former tank. The borings identified fill material to a depth of 12 feet (ft) below grade. The fill material was characterized by varying amounts of silt, sand, and gravel. The UST was located on a portion of land that is outside the historic shoreline at the Harbor and was created by infilling sometime after 1939.

A total of four soil samples were collected from the borings. One sample was collected within the upper 4 ft of soil (TB-028) and three samples (TB-028, TB-029, and TB-030) were collected from soils deeper than 4 ft below grade. Additional borings could not be performed in this area due to access restrictions related to the proximity of other active USTs. All four soil samples were analyzed for VOCs, SVOCs, TPH, and TAL metals. The list of analytes for the soils samples was conservatively determined based on compounds associated with fuel oil.

5. SCREENING ASSESSMENT AND COMPLIANCE SUMMARY

Analytical results from each sample collected from PRA 9 were compared to applicable criteria provided in the RSRs as well as related screening values (i.e., metals concentrations versus 20 times the GB Pollutant Mobility Criteria). The attached table presents a summary of the sampling results. No contaminants were encountered that exceeded applicable RSR criteria, including the residential direct exposure criteria (RDEC) and the Pollutant Mobility Criteria for Class GB groundwater (GB PMC), at any of the locations tested. Groundwater beneath the Site is classified as "GB" because of the industrial nature of the area and the proximity to saline waters of the Pequonnock River and Bridgeport Harbor.

Soil

As shown in the attached table, all of the soil samples collected from PRA 9 are in compliance with the RSRs. Sample SS-111 is an older sample that was collected prior to the soil removal conducted during replacement of the UST in 1989. This sample was removed as part of the soil remediation activities.

Groundwater

Compliance with the RSRs for groundwater will be demonstrated on a site-wide basis rather than individual PRAs by evaluating groundwater quality nearest the point of groundwater discharge to Bridgeport Harbor and Long Island Sound. There are no monitoring wells located within PRA 9.

6. PROPOSED FURTHER ACTION

No further actions are recommended by WESTON for PRA 9 given that no compounds were detected in soils at concentrations exceeding the RDEC or the GB PMC, confirming that the soils are in compliance with the RSRs. An Environmental Land Use Restriction is not required for soil within this PRA. Groundwater quality will be evaluated as part of a site-wide monitoring program for BHS.

FIGURES

Legend

Site Boundary

Figure 1
Site Location
PSEG
Bridgeport Harbor Station

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Property Boundary
Sample Location
Waters Edge

PRA

PRA 1
PRA 10
PRA 11
PRA 12
PRA 13
PRA 14
PRA 15
PRA 16
PRA 2
PRA 3
PRA 4
PRA 5
PRA 6
PRA 7
PRA 8
PRA 88
PRA 9

N
W
E
S
0
300
Feet

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Figure 2
PRA Location Map

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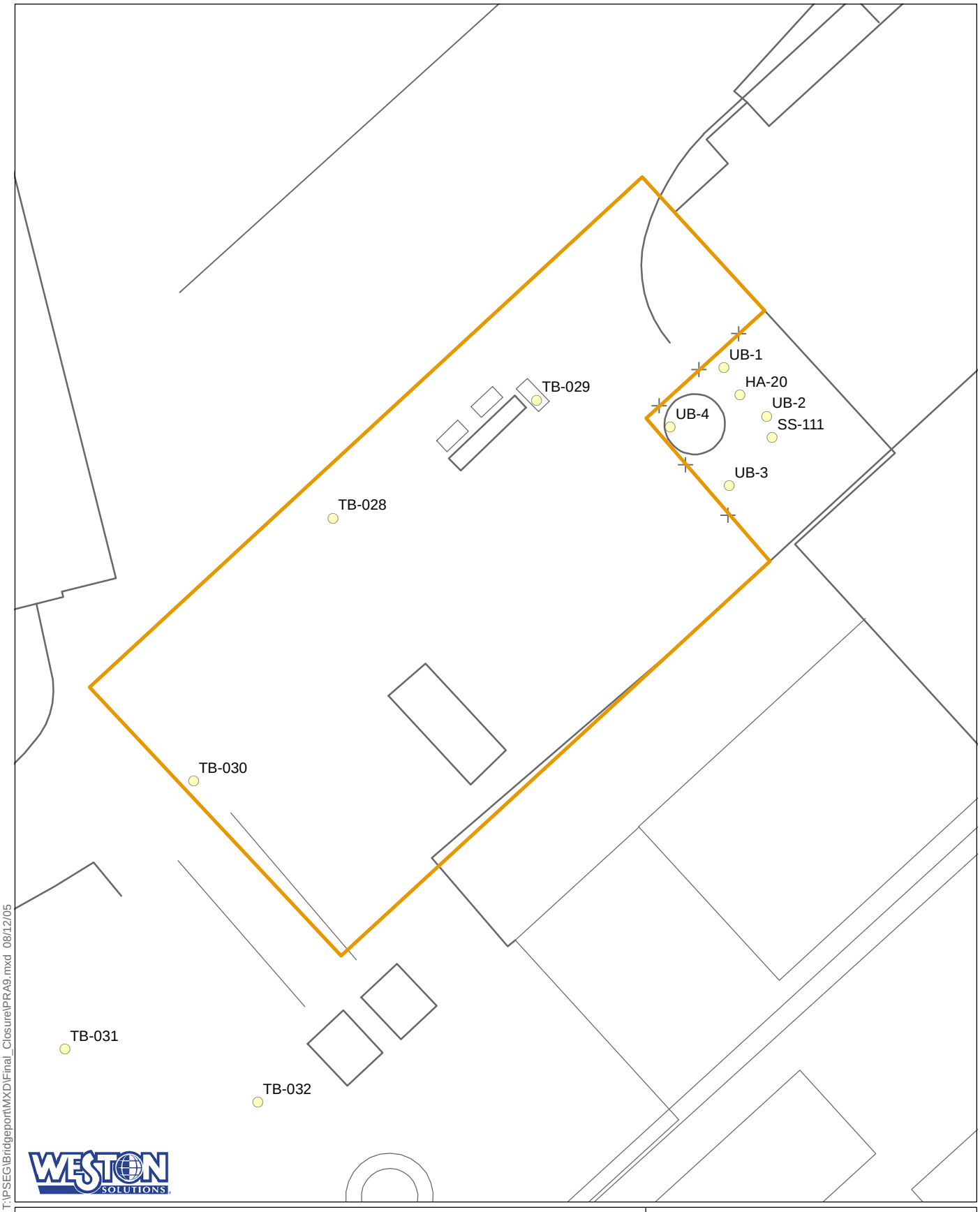
UB-1
HA-20
UB-2
SS-111
UB-4
UB-3
TB-029
TB-028
TB-030
TB-031
TB-032
T:\PSEG\Bridgeport\MXD\Final_Closure\PRA9.mxd 08/12/05
Property Boundary
Historic Features
PRA 9
SampleLocs
N
W
E
S
0
25
Feet
Bridgeport Harbor Station
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Figure 3
PRA 9 Sampling Locations

TABLE

PRA 9

Former 6,000-gallon No. 2 Fuel Oil USTs

0 - 4 feet

	Extract	NAPL	10XGWPC	GWPC	20XGBPMC	2XGBPMC	GBPMC	2XIDEC	IDEC	RDEC	IVC	Result
SS-111												
TPH					72101 mk (0-1)	72101 mk (0-1)	72101 mk (0-1)	72101 mk (0-1)	72101 mk (0-1)	72101 mk (0-1)		72101